Search Results -

Term	Documents
INCREASE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1551825
INCREASES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	957994
PRODUCTION.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1246155
PRODN.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	513306
YIELD.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	614589
YIELDS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	245222
(2 SAME (INCREASE ADJ (YIELD OR PRODUCTION))).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	5

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Refine Search: `l2 same increase (production or yield)` Clear

Search History

Today's Date: 5/17/2001

DB Name	Query	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l2 same increase (production or yield)	5	L4
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l2 and increase (production or yield)	22	L3
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	secondary metabolite same fung$	189	L2
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	secondary metabolite and fung$	475	L1

Search Results -

Term	Documents
INCREASE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1551825
INCREASES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	957994
PRODUCTION.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1246155
PRODN.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	513306
YIELD.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	614589
YIELDS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	245222
(13 SAME (INCREASE ADJ (YIELD OR PRODUCTION))).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	73

Database: US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Refine Search: `113 same increase (production or yield)` Clear

Search History

Today's Date: 5/17/2001

DB Name	Query	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l13 same increase (production or yield)	73	L14
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	penicillin or isopenicillin N	22084	L13
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l9 and (fungus or fungi)	14	L12
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aflatoxin same increase (production or yield)	2	L11
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	sterigmatocystin same increase (production or yield)	0	L10
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aflatoxin same (increase production or yield)	35	L9
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aflatoxin	747	L8
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l6 and l1	3	L7
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	sterigmatocystin	26	L6
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and increase (production or yield)	45	L5
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l3 and l1	1	L4
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	interfere same biosynthetic pathway	29	L3
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and modulate gene expression	1	L2
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	secondary metabolite and (fungus or fungi)	388	L1

Search Results -

Term	Documents
AAD34558	0
AAD34558S	0
AAD34564	0
AAD34564S	0
(AAD34558 OR AAD34564).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	0

Database: US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Refine Search: aad34558 or aad34564 Clear

Search History

Today's Date: 5/17/2001

DB Name	Query	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aad34558 or aad34564	0	L10
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l8 and increase (production or yield)	9	L9
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and (lovastatin or patulin)	37	L8
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aspergillus nidulans and (rho1 or rsr1)	1	L7
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l5 and saccharomyces	0	L6
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	pump1 or pump2	26	L5
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and tpk2	1	L4
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	express$ tpk2	0	L3
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and express$ tpk2	0	L2
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aspergillus terreus	489	L1

Search Results -

Term	Documents
INCREASE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1551832
INCREASES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	957995
PRODUCTION.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1246155
PRODN.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	513306
YIELD.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	614591
YIELDS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	245223
(16 AND (INCREASE ADJ (YIELD OR PRODUCTION))).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	20

Database: US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Refine Search: `l16 and increase (production or yield)` Clear

Search History

Today's Date: 5/19/2001

DB Name	Query	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l16 and increase (production or yield)	20	L17
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	aspergillus and secondary metabolite	147	L16
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	secondary metabolite same saccharomyces cerevisiae	1	L15
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	secondary metabolite same saccharomyces	3	L14
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and l12	40	L13
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	inhibit same express$	15253	L12
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l10 and l1	59	L11
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	activat$ same express$	21796	L10
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and activat$	104	L9
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and small molecule	9	L8
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and dominant neomorphic	0	L7
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and dominant positive	0	L6
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and dominant negative	7	L5
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and overexpress$	28	L4
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l2 and overexpress$	4	L3
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	l1 and increase (production or yield)	22	L2
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	secondary metabolite same fung$	189	L1

```
### Status: Path 1 of [Dialog Information Services via Modem]

### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)
Trying 3106900061...Open

DIALOG INFORMATION SERVICES
PLEASE LOGON:
 ******** HHHHHHHH SSSSSSSS?
### Status: Signing onto Dialog
 ********
ENTER PASSWORD:
 ******** HHHHHHHH SSSSSSSS? ********
Welcome to DIALOG
### Status: Connected


Dialog level 00.12.12D

Last logoff:  17may01 13:55:52
Logon file001 20may01 08:59:45
          *** ANNOUNCEMENT ***
                  ***
NEW FILE RELEASED
***EIU Business Magazines (File 622)
***IBISWorld Market Research (File 753)
***Investext PDF Index (File 745)
***Daily and Sunday Telegraph (London) Papers (File 756)
***The Mirror Group Publications (United Kingdom) (File 757)
***Reuters Business Insight (File 759)

UPDATING RESUMED
***Delphes European Business (File 481)
***Extel Financial Cards from Primark (File 500)
***Books In Print (File 470)
***Extel News Cards from Primark (File 501)
                            ***
RELOADED
***Kompass Middle East/Africa/Mediterranean (File 585)
***Kompass Asia/Pacific (File 592)
***Kompass Central/Eastern Europe (File 593)
***Kompass Canada (File 594)

FILES REMOVED
***EconBase (File 565)

New pricing structure for Pharmaprojects (Files 128/928) from
April 1, 2001. Check Help News128 or Help News928 for further
information.

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     >>> Enter BEGIN HOMEBASE for Dialog Announcements <<<
     >>>    of new databases, price changes, etc.      <<<
                  ****
KWIC is set to 50.
HILIGHT set on as '*'
* * *                                    * * *

File   1:ERIC  1966-2001/May 08
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      Set  Items  Description
      ---  -----  -----------
?b 71, 434, 155, 5
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```
      20may01 08:59:58 User259980 Session D118.1
           $0.42    0.121 DialUnits File1
     $0.42  Estimated cost File1
     $0.01  TYMNET
     $0.43  Estimated cost this search
     $0.43  Estimated total session cost   0.121 DialUnits


SYSTEM:OS  - DIALOG OneSearch
  File  71:ELSEVIER BIOBASE  1994-2001/May W4
        (c) 2001  Elsevier Science B.V.
  File 434:SciSearch(R) Cited Ref Sci  1974-1989/Dec
        (c) 1998 Inst for Sci Info
  File 155:MEDLINE(R)  1966-2001/May W5
        (c) format only 2000 Dialog Corporation
*File 155: Medline has now updated. For further information
see Help News155.
  File   5:Biosis Previews(R)  1969-2001/May W2
        (c) 2001 BIOSIS

      Set  Items  Description
      ---  -----  -----------
?e au=busby robert

Ref   Items  Index-term
E1        1  AU=BUSBY RL
E2        4  AU=BUSBY RM
E3        0 *AU=BUSBY ROBERT
E4        2  AU=BUSBY ROBERT C
E5        1  AU=BUSBY ROBERT D
E6        6  AU=BUSBY ROBERT W
E7        1  AU=BUSBY ROD
E8        7  AU=BUSBY RW
E9      183  AU=BUSBY S
E10       1  AU=BUSBY S A
E11      15  AU=BUSBY S J
E12      28  AU=BUSBY S J W

          Enter P or PAGE for more
?e au=cali brian

Ref   Items  Index-term
E1        5  AU=CALI BB
E2        8  AU=CALI BM
E3        0 *AU=CALI BRIAN
E4        4  AU=CALI BRIAN M
E5       16  AU=CALI C
E6        2  AU=CALI C M
E7        2  AU=CALI CLORINDA
E8        2  AU=CALI CM
E9        5  AU=CALI D
E10       1  AU=CALI DD
E11      22  AU=CALI F
E12       7  AU=CALI F.

          Enter P or PAGE for more
?s secondary(w)metabolite and fung?
          481600  SECONDARY
          115549  METABOLITE
            1941  SECONDARY(W)METABOLITE
          632823  FUNG?
      S1     541  SECONDARY(W)METABOLITE AND FUNG?
?s increase (production or yield) and s1
               0  INCREASE (PRODUCTION
               0  YIELD)
             541  S1
      S2       0  INCREASE (PRODUCTION OR YIELD) AND S1
?s increase (production or yield)
               0  INCREASE (PRODUCTION
               0  YIELD)
      S3       0  INCREASE (PRODUCTION OR YIELD)
```

```
?s increase(w)production or yield
         1516937  INCREASE
          945925  PRODUCTION
             588  INCREASE(W)PRODUCTION
          312041  YIELD
      S4  312588  INCREASE(W)PRODUCTION OR YIELD
?s s1 and s4
             541  S1
          312588  S4
      S5      23  S1 AND S4
?rd
...completed examining records
      S6      19  RD (unique items)
?t/9/all

 6/9/1     (Item 1 from file: 71)
DIALOG(R)File  71:ELSEVIER BIOBASE
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01488179 2000160319

Statistical analysis of elicitation strategies for thiarubrine A production in hairy root cultures of Ambrosia artemisiifolia

Bhagwath S.G.; Hjortso M.A.
ADDRESS: M.A. Hjortso, Department Chemical Engineering, Louisiana State University, Baton Rouge, LA 70803, United States
EMAIL: hjortso@che.lsu.edu

Journal: Journal of Biotechnology, 80/2 (159-167), 2000, Netherlands
PUBLICATION DATE: June 23, 2000
CODEN: JBITD
ISSN: 0168-1656
PUBLISHER ITEM IDENTIFIER: S016816560000256X
DOCUMENT TYPE: Article
LANGUAGES: English SUMMARY LANGUAGES: English
NO. OF REFERENCES: 29

Elicitation strategies were studied for *yield* enhancement of thiarubrine A, a *secondary* *metabolite* and a potential pharmaceutical, produced by hairy root cultures of Ambrosia artemisiifolia. Abiotic elicitation was performed using vanadyl sulfate solution and biotic elicitation using autoclaved cell wall filtrates of the *fungi* Protomyces gravidus, a pathogen of A. artemisiifolia and Botrytis cinereae. The factors considered were age of the culture, concentration of the elicitor used and the time period of exposure or contact. Statistical methods were used to determine the strength of the interaction between the various factors and their response on the *yield* of the *secondary* *metabolite*. The maximum increase in the *yield* relative to the control, 8-fold corresponding to 569 mug gsup -sup 1 of biomass, was observed when 16-day-old cultures were elicited with 50 mg lsup -sup 1 of vanadyl sulfate for a time period of 72 h. The maximum *yield* of 647 mug gsup -sup 1 was achieved when the cultures were exposed to 5 muM autoclaved cell wall filtrates of P. gravidus for a time period of 48 h. The *yield* increase was 3-fold in the case of elicitation with autoclaved cell wall filtrates of B. cinereae. The methodology used in this report can be extended to determine the optimum conditions of other elicitors. Copyright (C) 2000 Elsevier Science B.V.

DESCRIPTORS:
Elicitation; Hairy roots; Thiarubrine A; Ambrosia artemisiifolia

SPECIES DESCRIPTORS:
Ambrosia artemisifolia; Protomyces gravidus; Botrytis cinerea

CLASSIFICATION CODE AND DESCRIPTION:
92.3.3.1 - PLANT SCIENCE / TISSUE CULTURE / Tissue and Organ Culture, Micropropagation / Tissue and organ culture
92.9.1.4 - PLANT SCIENCE / BIOTECHNOLOGY / Biotechnology and Bioengineering / Production of useful compounds
92.16.2 - PLANT SCIENCE / TECHNIQUES / Statistics
92.1.6 - PLANT SCIENCE / BIOCHEMISTRY / Secondary Products
84.4.1 - GENETICS AND MOLECULAR BIOLOGY / VIRAL GENETICS / Plant and *Fungal* Viruses

6/9/2 (Item 2 from file: 71)
DIALOG(R)File 71:ELSEVIER,BIOBASE

00084923 94054891
Hispidospermidin, a novel phospholipase C inhibitor produced by Chaetosphaeronema hispidulum (Cda) Moesz NR 7127: I - Screening, taxonomy, and fermentation
Yanagisawa M.; Sakai A.; Adachi K.; Sano T.; Watanabe K.; Tanaka Y.; Okuda T.
ADDRESS: M. Yanagisawa, Nippon Roche Research Center, 200 Kajiwara, Kamakura, Kanagawa 247, Japan
Journal: Journal of Antibiotics, 47/1 (1-5), 1994, Japan
PUBLICATION DATE: 19940000
CODEN: JANTA
ISSN: 0021-8820
DOCUMENT TYPE: Article
LANGUAGES: English SUMMARY LANGUAGES: English

A novel phospholipase C inhibitor, hispidospermidin, was discovered from a *fungal* culture broth. The producing *fungus*, NR 7127, formed abundant pycnidia on banana leaf agar under near UV light. The ostiolate pycnidia were dark colored with a short beak possessing numerous protruding setae. The conidiogeneous cells were phialidic. The conidia were hyaline, 1 septate, smooth and spindle-shaped. From these distinctive characteristics, this strain was identified as Chaetosphaeronema hispidulum (Cda) Moesz of the Coelomycetes. Hispidospermidin was produced in a 50-liter jar fermentor containing 2% glucose, 2% potato starch, 2% Toast soya, 0.5% yeast extract, 0.25% NaCl, 0.0005% ZnSOinf 4.7Hinf 2O, 0.0005% CuSOinf 4.5Hinf 2O, 0.0005% MnSOinf 4.4Hinf 2O, 0.32% CaCOinf 3, and 0.3% Nissan disfoam CA-115. Fermentation was conducted at 27degreeC at an aeration rate of 30 liters/minute and agitated at 500 rpm for 95 hours. Maximum production *yield* of hispidospermidin was observed after 72 hours. Hispidospermidin inhibited rat brain phospholipase C at 16 muM of IC$D5inf 0. This is the first recorded discovery of a *secondary* *metabolite* from the genus Chaetosphaeronema.

6/9/3 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06281979 90047071
Antibiotics: opportunities for genetic manipulation.
Hopwood DA
John Innes Institute, Norwich, U.K.
Philosophical transactions of the Royal Society of London. Series B: Biological sciences (ENGLAND) Aug 31 1989, 324 (1224) p549-62, ISSN 0962-8436 Journal Code: P5Z
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW; REVIEW LITERATURE
JOURNAL ANNOUNCEMENT: 9002
Subfile: INDEX MEDICUS
New antibiotics can still be discovered by the development of novel screening procedures. Notable successes over the last few years include the monobactams, beta-lactamase inhibitors (clavulanic acid) and new glycopeptides in the antibacterial field; antiparasitic agents such as avermectins; and herbicidal antibiotics like bialaphos. In the future we can expect the engineering of genes from 'difficult' pathogens, including mycobacteria and *fungi*, and cancer cells, to provide increasingly useful in vitro targets for the screening of antibiotics that can kill pathogens and tumours. There will also be a greater awareness of the need to reveal the full potential for antibiotic production on the part of microorganisms by the physiological and/or genetic awakening of 'silent' genes. Nevertheless, the supply of natural antibiotics for direct use or chemical modification is not infinite and there will be increasing scope for widening the range of available antibiotics by genetic engineering. 'Hybrid' antibiotics have been shown to be generated by the transfer of genes on suitable vectors between strains producing chemically related compounds. More exciting is the possibility of generating novelty by the

genetic engineering of the synthases that determine the basic structure of antibiotics belonging to such classes as the beta-lactams and polyketides. Research in this area will certainly *yield* knowledge of considerable scientific interest and probably also of potential applicability. In the improvement of antibiotic titre in actinomycetes, protoplast fusion between divergent selection lines has taken a place alongside random mutation and screening. In some cases the cloning of genes controlling metabolic 'bottlenecks' in *fungi* and actinomycetes will give an immediate benefit in the conversion of accumulated biosynthetic intermediates to the desired end product. However, the main impact of genetic engineering in titre improvement will probably come only after a further use of this technology to understand and manipulate the regulation of antibiotic biosynthesis as a facet of the general challenge of understanding differential gene expression. Streptomyces offers a particularly fertile field for such research, following the isolation of DNA segments that carry groups of closely linked operons for the biosynthesis of and resistance to particular antibiotics, and of genes with pleiotropic effects on morphological differentiation and *secondary* *metabolite* formation. (79 Refs.)
Descriptors: *Antibiotics--Biosynthesis--BI; *Genetic Engineering; Amino Acid Sequence; Molecular Sequence Data; Monensin--Biosynthesis--BI; Research Design
CAS Registry No.: 0 (Antibiotics); 17090-79-8 (Monensin)

6/9/4 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12036919 BIOSIS NO.: 199900317438
Synthesis of dendryphiellin C, a trinor-sesquiterpene from a marine source.
AUTHOR: Akao Hiroko; Kiyota Hiromasa; Nakajima Takao; Kitahara Takeshi(a)
AUTHOR ADDRESS: (a)Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, U**Japan
JOURNAL: Tetrahedron 55 (25):p7757-7770 June 18, 1999
ISSN: 0040-4020
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: Enantioselective synthesis of dendryphiellin C, isolated from cultures of Dendryphiella sarina, has been achieved in a convergent way such as coupling of a C9-branched carboxylic acid 10 with a trinor-eremophilane alcohol 11. The latter was synthesized starting from a chiral building block, (1S,5S,6R)-5-hydroxybicyclo(4.1.0)heptan-2-one 16, which was originally prepared in this group using biochemical transformation as a key step. The synthesis was completed through 12 steps from 16 in overall 2.4% *yield*.
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Methods and Techniques
BIOSYSTEMATIC NAMES: *Fungi* Imperfecti or Deuteromycetes--*Fungi*, Plantae
ORGANISMS: Dendryphiella sarina (*Fungi* Imperfecti or Deuteromycetes)--marine *fungus*
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): *Fungi*; Microorganisms; Nonvascular Plants; Plants
CHEMICALS & BIOCHEMICALS: 1S,5S,6R)-5-hydroxybicyclo(4.1.0)heptan-2-one --chiral building block; dendryphiellin C--marine *secondary* *metabolite*, synthesis, trinor-sesquiterpene
METHODS & EQUIPMENT: chemical synthesis protocol--synthetic method
CONCEPT CODES:
10050 Biochemical Methods-General
10506 Biophysics-Molecular Properties and Macromolecules
51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
BIOSYSTEMATIC CODES:
15500 *Fungi* Imperfecti or Deuteromycetes

6/9/5 (Item 2 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

11981585 BIOSIS NO.: 199900262104
The effect of head blight on reduction of *yield* traits and moniliformin accumulation in kernels of 17 winter wheat cultivars inoculated with Fusarium avenaceum.
AUTHOR: Kostecki Marian(a); Kaptur Przemyslaw; Wojciechowski Slawomir; Kaczmarek Zygmunt; Wisniewska Halina; Golinski Piotr
AUTHOR ADDRESS: (a)Katedra Chemii, Akademia Rolnicza im. Augusta Cieszkowskiego, Wojska Polskiego 75, 60-625, Pozna**Poland
JOURNAL: Plant Breeding and Seed Science 41 (1):p75-82 1997
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: The susceptibility to head blight of 17 winter wheat cultivars widely grown in Poland were tested in the field experiments (crops of 1994 and 1995). The effect of inoculation with F. avenaceum KF 203 (ATCC 64 451) isolate on the *yield* and on accumulation of moniliformin was examined. The average percentage of the kernels with visible symptoms of scab (crop 1995) was 39.2% while the average weight of kernels per head and weight of 1000 kernels were reduced to 92.5 and 80.5% of the control (non-inoculated), respectively. Moniliformin concentration in unselected sample of kernels amounted to 2.1 mg/kg. Basing on the number of diseased kernels, the extent of their contamination with the toxin and *yield* reduction it could be concluded that 3 cultivars, Liwilla, Caribo and Maltanka, are the least susceptible to Fusarium head blight, while Gama, Kobra and Almari are highly susceptible.

REGISTRY NUMBERS: 31876-38-7Q: MONILIFORMIN; 52591-22-7Q: MONILIFORMIN; 71376-34-6Q: MONILIFORMIN
DESCRIPTORS:
MAJOR CONCEPTS: Agronomy (Agriculture); Infection
BIOSYSTEMATIC NAMES: *Fungi* Imperfecti or Deuteromycetes--*Fungi*, Plantae; Gramineae--Monocotyledones, Angiospermae, Spermatophyta, Plantae
ORGANISMS: winter wheat (Gramineae)--host; Fusarium avenaceum (*Fungi* Imperfecti or Deuteromycetes)--plant pathogen
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Angiosperms; *Fungi*; Microorganisms; Monocots; Nonvascular Plants; Plants; Spermatophytes; Vascular Plants
DISEASES: Fusarium head blight--*fungal* disease
CHEMICALS & BIOCHEMICALS: moniliformin--accumulation, toxic *secondary* *metabolite*
GEOGRAPHICAL NAME: Poland (Europe, Palearctic region)
MISCELLANEOUS TERMS: plant breeding
CONCEPT CODES:
54514 Phytopathology-Parasitism and Resistance
03504 Genetics and Cytogenetics-Plant
52504 Agronomy-Grain Crops
54502 Phytopathology-Diseases Caused by Fungi
BIOSYSTEMATIC CODES:
15500 *Fungi* Imperfecti or Deuteromycetes
25305 Gramineae

6/9/6 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11456260 BIOSIS NO.: 199800237592
Solid state fermentation: Definition, characteristics, limitations and monitoring.
BOOK TITLE: Advances in solid state fermentation
AUTHOR: Viniegra-Gonzalez G(a)
BOOK AUTHOR/EDITOR: Roussos S; Lonsane B K; Raimbault M; Viniegra-Gonzales G: Eds
AUTHOR ADDRESS: (a)Dep. Biotechnology, Univ. Autonoma Metropolitana, Iztapalapa, Apartado Postal 55-535, 09340 Mexi**Mexico

p5-22 1997
BOOK PUBLISHER: Kluwer Academic Publishers, PO Box 989, 3300 AZ Dordrecht, Netherlands
Kluwer Academic Publishers, 101 Phillip Drive, Norwell, Massachusetts 02061, USA
CONFERENCE/MEETING: 2nd International Symposium on Solid State Fermentation FMS-95 Montpellier, France February 27-28, 1997
ISBN: 0-7923-4732-3
RECORD TYPE: Citation
LANGUAGE: English
SUMMARY LANGUAGE: English; French
DESCRIPTORS:
MAJOR CONCEPTS: Bioprocess Engineering
BIOSYSTEMATIC NAMES: *Fungi*--Plantae
ORGANISMS: *fungi* (*Fungi*)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): *Fungi*; Microorganisms; Nonvascular Plants; Plants
METHODS & EQUIPMENT: solid state fermentation--advantages, limitations, microbiological method
MISCELLANEOUS TERMS: enzyme production; microscopic heterogeneity; product *yield*; *secondary* *metabolite* production; sporulation; waste water reduction; Book Chapter; Meeting Paper
CONCEPT CODES:
39007 Food and Industrial Microbiology-Biosynthesis, Bioassay and Fermentation
32000 Microbiological Apparatus, Methods and Media
51512 Plant Physiology, Biochemistry and Biophysics-Reproduction
51518 Plant Physiology, Biochemistry and Biophysics-Enzymes
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
BIOSYSTEMATIC CODES:
15000 *Fungi*-Unspecified

6/9/7 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10807954 BIOSIS NO.: 199799429099
BAS 494 02 F, a new broad-spectrum *fungicide* for disease control in cereals.
AUTHOR: De Vleeschauwer J; Schelberger K; Saur R; Defloor K
AUTHOR ADDRESS: BASF Belgium, Brussels**Belgium
JOURNAL: Mededelingen Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen Universiteit Gent 61 (2A):p367-376 1996
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: BAS 494 02 F is a new broad spectrum *fungicide* which contains 2 active ingredients: kresoxim-methyl and epoxiconazole. Kresoxim-methyl is a new compound which has been developed starting from a *fungal* *secondary* *metabolite*. Kresoxim-methyl is mainly effective on the leaf surface. The second active ingredient epoxiconazole is a triazole which has a systemic activity. The combination of both active ingredients results in a product with a very high efficacy against all major cereal diseases. Cereals treated with BAS 494 02 F are more healthy and show in addition a greener appearance. The high degree of disease activity combined with the green effect guarantee a considerable *yield* gain.
REGISTRY NUMBERS: 133855-98-8: EPOXICONAZOLE
DESCRIPTORS:
MAJOR CONCEPTS: Agronomy (Agriculture); Biochemistry and Molecular Biophysics; Development; Infection; Pest Assessment Control and Management
BIOSYSTEMATIC NAMES: Angiospermae--Angiospermae, Spermatophyta, Plantae
ORGANISMS: cereals (Angiospermae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): angiosperms; plants; spermatophytes; vascular plants
CHEMICALS & BIOCHEMICALS: EPOXICONAZOLE
MISCELLANEOUS TERMS: Research Article; ACTIVE INGREDIENT; AGRONOMY; BAS 494 02 F; CROP COLOR; DISEASE CONTROL; EPOXICONAZOLE; *FUNGAL* DISEASE;

FUNGAL INFECTION; *FUNGAL* *SECONDARY* *METABOLITE*-DERIVED; GREEN; HOST; INFECTION; KRESOXIM-METHYL; NEW BROAD-SPECTRUM *FUNGICIDE*; NEW COMPOUND; PEST MANAGEMENT; PESTICIDES; *YIELD* GAIN

CONCEPT CODES:
10060 Biochemical Studies-General
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
52504 Agronomy-Grain Crops
54502 Phytopathology-Diseases Caused by Fungi
54516 Phytopathology-Disease Control
54600 Pest Control, General; Pesticides; Herbicides

BIOSYSTEMATIC CODES:
25200 Angiospermae

6/9/8 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10144440 BIOSIS NO.: 199698599358
Development of in vitro identification techniques for special pathogenic forms of Fusarium oxysporum.
AUTHOR: Rutherford M A; Bridge P D; Paterson R R M; Brayford D; Thomas V
AUTHOR ADDRESS: International Mycological Inst., Bakeham Lane, Egham TW20 9TY**UK
JOURNAL: Bulletin OEPP 25 (1-2):p137-142 1995
ISSN: 0250-8052
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English; French; Russian

ABSTRACT: *Fungal* wilt diseases of plants caused by Fusarium spp. are of major economic importance in a wide range of tropical crops, including banana, cotton, tomato, oil palm, date palm and melon. Unfortunately disease control is hampered by both difficult diagnosis and pathogen variability. Our project is elucidating rapid laboratory techniques, suitable for use in developing countries, which will differentiate saprobic and parasitic forms of the *fungus* and identify particular special forms. Fusarium isolates pathogenic to cotton, banana and tomato and a range of saprobic forms have been screened by physiological testing and thin layer chromatography for detection of secondary metabolites and isozyme electrophoresis. Molecular systematic analyses of chromosomal and mitochondrial DNA have also been investigated. Results show that an integrated approach, involving application of more than one of the techniques developed, is most useful for the differentiation of strains belonging to specific pathogenic groups, such as special forms or races. The techniques being developed will benefit disease diagnosis, research into mechanisms of plant resistance and development of resistant cultivars, epidemiological studies and soil-based control measures, resulting in overall reductions in *yield* loss in countries where fusarium wilt diseases are problematic.

DESCRIPTORS:
MAJOR CONCEPTS: Agronomy (Agriculture); Enzymology (Biochemistry and Molecular Biophysics); Horticulture (Agriculture); Infection; Metabolism; Pest Assessment Control and Management
BIOSYSTEMATIC NAMES: Cucurbitaceae--Dicotyledones, Angiospermae, Spermatophyta, Plantae; *Fungi* Imperfecti or Deuteromycetes--*Fungi*, Plantae; Malvaceae--Dicotyledones, Angiospermae, Spermatophyta, Plantae ; Musaceae--Monocotyledones, Angiospermae, Spermatophyta, Plantae; Palmae--Monocotyledones, Angiospermae, Spermatophyta, Plantae; Solanaceae--Dicotyledones, Angiospermae, Spermatophyta, Plantae
ORGANISMS: banana (Musaceae); cotton (Malvaceae); date palm (Palmae); melon (Cucurbitaceae); oil palm (Palmae); tomato (Solanaceae); Fusarium oxysporum (*Fungi* Imperfecti or Deuteromycetes); Fusarium spp. (*Fungi* Imperfecti or Deuteromycetes)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): angiosperms; dicots; *fungi*; microorganisms; monocots; nonvascular plants; plants; spermatophytes; vascular plants
MISCELLANEOUS TERMS: DISEASE CONTROL; DNA; ISOZYME; *SECONDARY*

METABOLITE
CONCEPT CODES:
10806 Enzymes-Chemical and Physical
13002 Metabolism-General Metabolism; Metabolic Pathways
51518 Plant Physiology, Biochemistry and Biophysics-Enzymes
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
52508 Agronomy-Fiber Crops
52514 Agronomy-Oil Crops
53004 Horticulture-Tropical and Subtropical Fruits and Nuts; Plantation Crops
53008 Horticulture-Vegetables
54502 Phytopathology-Diseases Caused by Fungi
54516 Phytopathology-Disease Control
54600 Pest Control, General; Pesticides; Herbicides
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
BIOSYSTEMATIC CODES:
15500 *Fungi* Imperfecti or Deuteromycetes
25365 Musaceae
25380 Palmae
25890 Cucurbitaceae
26330 Malvaceae
26775 Solanaceae

6/9/9 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10091719 BIOSIS NO.: 199598546637
Liquid-culture pH, temperature, and carbon (not nitrogen) source regulate phenazine productivity of the take-all biocontrol agent Pseudomonas fluorescens 2-79.
AUTHOR: Slininger P J(a); Shea-Wilbur M A
AUTHOR ADDRESS: (a)Fermentation Biochem. Res. Unit, Natl. Cent. Agric. Utilization Res., USDA, Agric. Res. Serv., 1**USA
JOURNAL: Applied Microbiology and Biotechnology 43 (5):p794-800 1995
ISSN: 0175-7598
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Strain 2-79 is a biocontrol agent against take-all, an important disease of wheat caused by Gaeumannomyces graminis var. tritici. In the rhizosphere, it produces the antibiotic phenazine 1-carboxylic acid (PCA) as the primary means of disease suppression. One barrier to commercial use of phenazine-producing pseudomonads, like strain 2-79, is the lack of liquid-culture technology for mass production. For instance, there is little published research concerning the impact of liquid-culture secondary metabolism on the biocontrol qualities of the cell harvest, i.e., efficacy, phytotoxicity, and storage survival. Yet it is important to know whether the fermentation process should be designed to enhance or eliminate *secondary* *metabolite* accumulation. To enable future exploration of this issue, we identified liquid-culture parameters that could be manipulated to control the phenazine productivity of strain 2-79. Our results indicated that PCA accumulation was very sensitive to the culture pH and temperature. It was possible to produce large cell populations with either high or low phenazine productivity by choosing to control culture pH at 7 and 8 respectively. Although high cell accumulations were achieved over the broad 25-34 degree C range studied, high, moderate, or low PCA productivities were observed at 25-27 degree C, 29-32.5 degree C, or 34 degree C respectively. When pH was controlled at 7, specific PCA productions at 25 degree C could be modulated by the choice of carbon source supplied. PCA accumulation per unit biomass reached 0.31 g/g on glucose, 0.16 g/g on glycerol and xylose, and only 0.09 g/g on fructose. Although the nitrogen source was also tested as a variable, it had little influence on culture PCA productivity under controlled pH.

REGISTRY NUMBERS: 7440-44-0: CARBON; 7727-37-9: NITROGEN; 92-82-0: PHENAZINE

DESCRIPTORS:
MAJOR CONCEPTS: Agronomy (Agriculture); Biochemistry and Molecular Biophysics; Cell Biology; Infection; Metabolism; Methods and Techniques ; Nutrition; Pest Assessment Control and Management; Pharmacology; Physiology; Toxicology
BIOSYSTEMATIC NAMES: Ascomycetes--*Fungi*, Plantae; Bacteria-General Unspecified--Eubacteria, Bacteria; *Fungi*-Unspecified--*Fungi*, Plantae; Pseudomonadaceae--Eubacteria, Bacteria
ORGANISMS: bacteria (Bacteria - General Unspecified); *fungus* (*Fungi* - Unspecified); microorganism (Microorganisms - Unspecified); Gaeumannomyces graminis var. tritici (Ascomycetes); Pseudomonas fluorescens (Pseudomonadaceae
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; *fungi*; microorganisms; nonvascular plants; plants
CHEMICALS & BIOCHEMICALS: CARBON; NITROGEN; PHENAZINE
MISCELLANEOUS TERMS: ANTIBIOTICS; BIOTECHNOLOGY; CARBON SOURCES; DISEASE SUPPRESSION; EFFICACY; FERMENTATION; METHODS; PHYTOTOXICITY; SECONDARY METABOLISM; STORAGE SURVIVAL; TEMPERATURE; *YIELD*
CONCEPT CODES:
10010 Comparative Biochemistry, General
10050 Biochemical Methods-General
10060 Biochemical Studies-General
10504 Biophysics-General Biophysical Techniques
10506 Biophysics-Molecular Properties and Macromolecules
10614 External Effects-Temperature as a Primary Variable (1971-)
13002 Metabolism-General Metabolism; Metabolic Pathways
13003 Metabolism-Energy and Respiratory Metabolism
13004 Metabolism-Carbohydrates
13202 Nutrition-General Studies, Nutritional Status and Methods
13220 Nutrition-Carbohydrates (1972-)
22002 Pharmacology-General
22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
22501 Toxicology-General; Methods and Experimental
30500 Morphology and Cytology of Bacteria
31000 Physiology and Biochemistry of Bacteria
32000 Microbiological Apparatus, Methods and Media
38502 Chemotherapy-General; Methods; Metabolism
39004 Food and Industrial Microbiology-Antibiotics, Biologics, Other Agents
52504 Agronomy-Grain Crops
54502 Phytopathology-Diseases Caused by Fungi
54516 Phytopathology-Disease Control
54600 Pest Control, General; Pesticides; Herbicides
BIOSYSTEMATIC CODES:
06508 Pseudomonadaceae (1992-)
15100 Ascomycetes

6/9/10 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09919840 BIOSIS NO.: 199598374758
Extractive fermentation of gibberellic acid by Gibberella fujikuroi.
AUTHOR: Hollmann Dirk; Switalski Joern; Geipel Sven; Onken Ulfert(a)
AUTHOR ADDRESS: (a)Lehrstuhl Technische Chemie B, Fachbereich Chemietechnik, Univ. Dortmund, D-44221 Dortmund**Germany
JOURNAL: Journal of Fermentation and Bioengineering 79 (6):p594-600 1995
ISSN: 0922-338X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Microbial production of metabolites is often limited by product inhibition, decomposition or bio-degradation during the process of fermentation. If the product can be removed from the broth, e.g., by liquid/liquid extraction, these losses can be reduced. The production of gibberellic acid (GA-3), a *secondary* *metabolite* of the ascomycete Gibberella fujikuroi, was studied with respect to product inhibition and kinetics of decomposition under fermentation conditions. A two-fold increase in the *yield* of GA-3 as a result of on-line extraction of the

product by polyalkoxylate (Genapol 2822) is described. For this extractive fermentation, a stirred tank fermentor was used. The biomass was separated by cross-flow filtration and recycled. The filtrate was extracted in a mixer/settler unit with the extraction solvent. The raffinate was recycled to the fermentor. The influences of product inhibition, chemical decomposition of the product and possible biodegradation on the product *yield* are discussed.

REGISTRY NUMBERS: 77-06-5: GIBBERELLIC ACID
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Bioprocess Engineering; Methods and Techniques; Pharmacognosy (Pharmacology); Pharmacology
BIOSYSTEMATIC NAMES: Ascomycetes--*Fungi*, Plantae; *Fungi*-Unspecified--*Fungi*, Plantae
ORGANISMS: *fungus* (*Fungi* - Unspecified); Gibberella fujikuroi (Ascomycetes
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): *fungi*; microorganisms; nonvascular plants; plants
CHEMICALS & BIOCHEMICALS: GIBBERELLIC ACID
INDUSTRY: biotechnology industry
MISCELLANEOUS TERMS: PHARMACEUTICALS; PROCESSING
CONCEPT CODES:
10050 Biochemical Methods-General
10504 Biophysics-General Biophysical Techniques
10506 Biophysics-Molecular Properties and Macromolecules
22002 Pharmacology-General
39007 Food and Industrial Microbiology-Biosynthesis, Bioassay and Fermentation
51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
54000 Pharmacognosy and Pharmaceutical Botany
10060 Biochemical Studies-General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
BIOSYSTEMATIC CODES:
15100 Ascomycetes

6/9/11 (Item 8 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09593067 BIOSIS NO.: 199598047985
Production of benzaldehyde and benzyl alcohol by the mushroom Polyporus tuberaster K2606.
AUTHOR: Kawabe Tatsuya; Morita Hideo
AUTHOR ADDRESS: Food Res. Lab., Takara Shuzo Co. Ltd., Seta 3-4-1, Otsu, Shiga 520-21**Japan
JOURNAL: Journal of Agricultural and Food Chemistry 42 (11):p2556-2560 1994
ISSN: 0021-8561
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The culture conditions of Polyporus tuberaster K2606 were investigated to find conditions with which much benzaldehyde and benzyl alcohol would be obtained. Strain K2606 reduced benzoic acid as well as L-phenylalanine to benzaldehyde and benzyl alcohol in high *yield*. The conversion rate of benzoic acid was about 60%. Two other metabolites of L-phenylalanine, 3-phenylpropionic acid and 3-phenylpyruvic acid, were reduced to benzaldehyde and benzyl alcohol as well. Veratryl alcohol, a *secondary* *metabolite* of L-phenylalanine, was not detected. Benzaldehyde produced by strain K2606 was reduced to benzyl alcohol, which was slowly converted again into benzaldehyde when culture with shaking continued. The maximum concentrations of benzaldehyde and benzyl alcohol produced by strain K2606 were 7.89 and 11.93 mM when L-phenylalanine was added to the culture medium at concentrations of 90 and 45 mM, respectively.

REGISTRY NUMBERS: 100-52-7: BENZALDEHYDE; 100-51-6: BENZYL ALCOHOL

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Foods; Metabolism; Methods and Techniques; Sense Organs (Sensory Reception)
BIOSYSTEMATIC NAMES: Angiospermae--Angiospermae, Spermatophyta, Plantae; *Fungi*-Unspecified--*Fungi*, Plantae
ORGANISMS: *fungus* (*Fungi* - Unspecified); vegetable (Angiospermae); Basidiomycetes (*Fungi* - Unspecified); Polysporus tuberaster (Organisms - Unspecified
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): angiosperms; *fungi*; microorganisms; nonvascular plants; plants; spermatophytes; vascular plants
CHEMICALS & BIOCHEMICALS: BENZALDEHYDE; BENZYL ALCOHOL
MISCELLANEOUS TERMS: CONVERSION RATE; FLAVOR COMPOUNDS; FOOD PRODUCTS; FOOD RESIDUE; METABOLITES; METHODS; *YIELD*
CONCEPT CODES:
10010 Comparative Biochemistry, General
10050 Biochemical Methods-General
10054 Biochemical Methods-Proteins, Peptides and Amino Acids
10060 Biochemical Studies-General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10504 Biophysics-General Biophysical Techniques
10506 Biophysics-Molecular Properties and Macromolecules
13002 Metabolism-General Metabolism; Metabolic Pathways
13012 Metabolism-Proteins, Peptides and Amino Acids
13504 Food Technology-Fruits, Nuts and Vegetables
13530 Food Technology-Evaluations of Physical and Chemical Properties (1970-)
13532 Food Technology-Preparation, Processing and Storage (1970-)
20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods
BIOSYSTEMATIC CODES:
15300 Basidiomycetes

6/9/12 (Item 9 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08977368 BIOSIS NO.: 199396128869
Improvement of shikonin productivity in Lithospermum erythrorhizon cell culture by alternating carbon and nitrogen feeding strategy.
AUTHOR: Srinivasan Venkatesh; Ryu Dewey D Y(a)
AUTHOR ADDRESS: (a)Dep. Chem. Eng., Univ. Calif., Davis, CA 95616**USA
JOURNAL: Biotechnology and Bioengineering 42 (7):p793-799 1993
ISSN: 0006-3592
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Stationary phase cell suspension cultures of Agrobacterium tumefaciens transformed Lithospermum erythrorhizon respond to additions of sucrose-rich (C-rich) medium with a 2-3-fold increase in the accumulation of shikonin derivatives and a 3-3.5-fold increase in the accumulation of soluble phenolics while showing a modest (10-30%) increase in cell concentration. Conversely, the addition of nitrate-rich (N-rich) medium resulted in 25-35% increase in biomass concentration but only 2-9% increase in shikonin production and apprx 3% increase in the *yield* of soluble phenolics. Repeated additions of C-rich medium resulted in only a modest (less than 10%) improvement in shikonin production over the levels obtained after the first application. No obvious correlation could be discerned between intracellular ATP levels or protein synthesis patterns and the pattern of shikonin accumulation following the addition of C-rich medium, suggesting that the precursor diversion mechanism is not generally applicable in our cell line. It was found that alternating feeding of N-rich and C-rich media could be used as an effective strategy for enhancing the productivity of plant

secondary *metabolite*.

REGISTRY NUMBERS: 517-89-5: SHIKONIN; 7440-44-0: CARBON; 7727-37-9: NITROGEN; 56-65-5Q: ATP; 87805-51-4Q: ATP; 94587-45-8Q: ATP; 111839-44-2Q: ATP
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Development; Metabolism; Methods and Techniques; Nutrition; Physiology
BIOSYSTEMATIC NAMES: Boraginaceae--Dicotyledones, Angiospermae, Spermatophyta, Plantae; *Fungi* Imperfecti or Deuteromycetes--*Fungi*, Plantae
ORGANISMS: Boraginaceae (Boraginaceae); Cladosporium cladosporioides (*Fungi* Imperfecti or Deuteromycetes)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): angiosperms; dicots; *fungi*; microorganisms; nonvascular plants; plants; spermatophytes; vascular plants
CHEMICALS & BIOCHEMICALS: SHIKONIN; CARBON; NITROGEN; ATP
MISCELLANEOUS TERMS: ISOCOUMARIN; NOVEL CHEMICAL STRUCTURE
CONCEPT CODES:
02504 Cytology and Cytochemistry-Plant
10060 Biochemical Studies-General
13002 Metabolism-General Metabolism; Metabolic Pathways
32500 Tissue Culture, Apparatus, Methods and Media
51504 Plant Physiology, Biochemistry and Biophysics-Nutrition
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
51526 Plant Physiology, Biochemistry and Biophysics-General and Miscellaneous
01004 Methods, Materials and Apparatus, General-Laboratory Methods
04500 Mathematical Biology and Statistical Methods
10010 Comparative Biochemistry, General
10050 Biochemical Methods-General
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10069 Biochemical Studies-Minerals
10506 Biophysics-Molecular Properties and Macromolecules
13003 Metabolism-Energy and Respiratory Metabolism
13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
13202 Nutrition-General Studies, Nutritional Status and Methods
51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods
52000 Economic Botany, General
BIOSYSTEMATIC CODES:
25665 Boraginaceae

6/9/13 (Item 10 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08818071 BIOSIS NO.: 199395107422
Dynamic response of immobilized cells to pulse addition of L-valine in cyclosporin A biosynthesis.
AUTHOR: Chun G-T; Agathos S N(a)
AUTHOR ADDRESS: (a)Dep. Chemical Biochem. Engineering, Rutgers University, PO Box 909, Piscataway, MJ 08855-0909**USA
JOURNAL: Journal of Biotechnology 27 (3):p283-294 1993
ISSN: 0168-1656
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A feeding strategy for L-valine was tested in the production of cyclosporin·A (CyA), a powerful immunosuppressive *secondary* *metabolite*, in celite-immobilized cells of the *fungus* Tolypocladium inflatum. This system has been previously shown to have promise over conventional submerged systems. Significant increase in Cy A biosynthesis was manifested in the immobilized cells when L-valine was added at 108 h (system C) and at 156 h (system D) during the exponential growth phase.

However, no clearly stimulating effect of L-valine on Cy A titre was observed when the amino acid was supplemented at hour 60 (lag phase, system B) or when the valine was present from the start (system A), where system A = 100%, system B = 113%, system C = 253%, system D = 302%. The large contribution enhanced production of Cy A in systems C and D may be explained the preferential channeling of L-valine to growth during the lagphase and to secondary metabolism during the late exponential phase of the immobilized cells.

REGISTRY NUMBERS: 72-18-4: L-VALINE; 59865-13-3: CYCLOSPORIN A
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Development; General Life Studies; Metabolism; Methods and Techniques; Pharmacology; Physiology
BIOSYSTEMATIC NAMES: *Fungi*-Unspecified--*Fungi*, Plantae; *Fungi* Imperfecti or Deuteromycetes--*Fungi*, Plantae
ORGANISMS: *fungus* (*Fungi* - Unspecified); Tolypocladium inflatum (*Fungi* Imperfecti or Deuteromycetes)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): *fungi*; microorganisms; nonvascular plants; plants
CHEMICALS & BIOCHEMICALS: L-VALINE; CYCLOSPORIN A
INDUSTRY: biotechnology industry
MISCELLANEOUS TERMS: FEEDING STRATEGY; GROWTH PHASE; IMMUNOSUPPRESSANT-DRUG; METHODS; PHARMACEUTICALS; SECONDARY METABOLITES ; *YIELD*
CONCEPT CODES:
02504 Cytology and Cytochemistry-Plant
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10511 Biophysics-Bioengineering
13012 Metabolism-Proteins, Peptides and Amino Acids
22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
22018 Pharmacology-Immunological Processes and Allergy
32000 Microbiological Apparatus, Methods and Media
39004 Food and Industrial Microbiology-Antibiotics, Biologics, Other Agents
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
51526 Plant Physiology, Biochemistry and Biophysics-General and Miscellaneous
04500 Mathematical Biology and Statistical Methods
10050 Biochemical Methods-General
10054 Biochemical Methods-Proteins, Peptides and Amino Acids
10060 Biochemical Studies-General
10502 Biophysics-General Biophysical Studies
13002 Metabolism-General Metabolism; Metabolic Pathways
13224 Nutrition-Proteins, Peptides and Amino Acids (1972-)
34508 Immunology and Immunochemistry-Immunopathology, Tissue Immunology
51504 Plant Physiology, Biochemistry and Biophysics-Nutrition
51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods
BIOSYSTEMATIC CODES:
15500 *Fungi* Imperfecti or Deuteromycetes

6/9/14 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08093879 BIOSIS NO.: 000093103952
INDOLE-3-ETHANOL PRODUCED BY ZYGORRHYNCHUS-MOELLERI AN INDOLE-3-ACETIC ACID ANALOGUE WITH ANTIFUNGAL ACTIVITY
AUTHOR: BROWN A E; HAMILTON J T G
AUTHOR ADDRESS: PLANT PATHOLOGY RES. DIV., DEP. AGRICULTURE NORTHERN IRELAND, NEWFORGE LANE, BELFAST BT9 5PX, UK.
JOURNAL: MYCOL RES 96 (1). 1992. 71-74. 1992
FULL JOURNAL NAME: Mycological Research
CODEN: MYCRE
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Indole-3-ethanol (IEt) was identified as a major *secondary* *metabolite* in cultures of Z. moelleri containing casein hydrolysate as the nitrogen source. Much smaller quantities of indole-3-acetic acid (IAA) were produced. In a medium containing an inorganic nitrogen source Z. moelleri metabolized tryptophan to IEt and IAA. The highest *yield* of IAA was produced at pH 4.5 while that of IEt was maximal in less acidic conditions. Tryptamine was also metabolised to IEt. When supplied with exogenous IEt Z. moelleri did not produce IAA, and IEt oxidase was not detected in either culture filtrate or *fungal* mycelium. IEt inhibited germination of zoospores of Phytophthora cinnamomi, oogonia of two Pythium spp. and conidia of Fusarium oxysporium f sp. lini with ED50 values between 1.8 and 12.7 .mu.g ml-1. Mycelial growth of these *fungi* and Rhizotonia solani and Sclerotinia sclerotiorum was also suppressed by IEt.

DESCRIPTORS: PHYTOPHTHORA-CINNAMOMI PYTHIUM-SPP FUSARIUM-OXYSPORUM RHIZOCTONIA-SOLANI SCLEROTINIA-SCLEROTIORUM IAA BIOLOGICAL CONTROL
CONCEPT CODES:
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51514 Plant Physiology, Biochemistry and Biophysics-Growth Substances
54502 Phytopathology-Diseases Caused by Fungi
54516 Phytopathology-Disease Control
BIOSYSTEMATIC CODES:
15100 Ascomycetes
15500 *Fungi* Imperfecti or Deuteromycetes
15900 Phycomycetes
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Microorganisms
Plants
Nonvascular Plants
Fungi

6/9/15 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

07055303 BIOSIS NO.: 000089125406
COMPARISON OF THE PERFORMANCES OF STIRRED TANK AND AIRLIFT TOWER LOOP REACTORS
AUTHOR: SCHUEGERL K
AUTHOR ADDRESS: INST. FUER TECHNISCHE CHEMIE, UNIV. HANNOVER, CALLINSTR. 3, D-3000 HANNOVER, FRG.
JOURNAL: J BIOTECHNOL 13 (4). 1990. 251-256. 1990
FULL JOURNAL NAME: Journal of Biotechnology
CODEN: JBITD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Following a consideration of the prerequisites for reactor comparison and the fundamental differences between stirred tank and airlift tower loop reactors, their performances are compared for the production of secondary metabolites: penicillin V by Penicillium chrysogenum, cephalosporin C by Cephalosporium acremonium, and tetracycline by Streptomyces aureofaciens. In stirred tank reactor, cell mass concentrations, volumetric productivities, and specific power inputs are higher than in airlift tower loop reactors. In the latter, efficiencies of oxygen transfer are higher, and specific productivities with regard to power input, substrate and oxygen consumptions, and *yield* coefficients of product formation with regard to substrate and oxygen consumptions are considerably higher than in stirred tank reactors. The prerequisities for improved performance are discussed.

DESCRIPTORS: PENICILLIUM-CHRYSOGENUM CEPHALOSPORIUM-ACREMONIUM STREPTOMYCES-AUREOFACIENS *FUNGUS* BACTERIA BIOTECHNOLOGY INDUSTRY FERMENTATION COMPARATIVE ANALYSIS *SECONDARY* *METABOLITE* PENICILLIN CEPHALOSPORIN TETRACYCLINE ANTIBIOTICS
CONCEPT CODES:
10060 Biochemical Studies-General
10504 Biophysics-General Biophysical Techniques

10511 Biophysics-Bioengineering
13002 Metabolism-General Metabolism; Metabolic Pathways
31000 Physiology and Biochemistry of Bacteria
38502 Chemotherapy-General; Methods; Metabolism
39004 Food and Industrial Microbiology-Antibiotics, Biologics, Other Agents
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
22002 Pharmacology-General
29500 Microorganisms, General
32000 Microbiological Apparatus, Methods and Media
BIOSYSTEMATIC CODES:
05828 Streptomycetaceae (1979-)
15500 *Fungi* Imperfecti or Deuteromycetes
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Microorganisms
Bacteria
Plants
Nonvascular Plants
Fungi

6/9/16 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

06709874 BIOSIS NO.: 000088019297
THE EFFECT OF FEEDBACK REGULATION AND IN SITU PRODUCT REMOVAL ON THE CONVERSION OF SUGAR TO CYCLOHEXIMIDE BY STREPTOMYCES-GRISEUS
AUTHOR: PAYNE G F; WANG H Y
AUTHOR ADDRESS: DEP. OF CHEM. ENG., CENT. FOR AGRIC. BIOTECHNOL., UNIV. OF MD. BALTIMORE COUNTY, BALTIMORE, MD. 21228, USA.
JOURNAL: ARCH MICROBIOL 151 (4). 1989. 331-335. 1989
FULL JOURNAL NAME: Archives of Microbiology
CODEN: AMICC
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: An addition of cycloheximide to cycloheximide- producing Streptomyces griseus cultures resulted in reductions in the production rate and in the conversion of sugar into cycloheximide. In situ cycloheximide adsorption was observed to enhance: total cycloheximide titers; productivities; and the conversion of sugar to cycloheximide. During the *secondary* *metabolite*-producing phase, sugar consumption was observed to be linearly dependent on cycloheximide productivity. From this analysis a true product *yield* and maintenance coefficient were estimated to be 0.08 g cycloheximide/g glucose and 0.028 g glucose/g cell-h, respectively. The sixfold difference between this true product *yield* and a theoretical value obtained from knowledge of the biosynthetic pathway is discussed. Since the maintenance sugar requirement for cycloheximide production is large, stimulation of biosynthesis through in situ adsorption significantly increases the overall efficiency of sugar conversion to this *secondary* *metabolite*.

DESCRIPTORS: *FUNGICIDE* BIOTECHNOLOGY FERMENTATION
CONCEPT CODES:
10050 Biochemical Methods-General
13002 Metabolism-General Metabolism; Metabolic Pathways
13004 Metabolism-Carbohydrates
31000 Physiology and Biochemistry of Bacteria
39007 Food and Industrial Microbiology-Biosynthesis, Bioassay and Fermentation
10060 Biochemical Studies-General
10068 Biochemical Studies-Carbohydrates
32000 Microbiological Apparatus, Methods and Media
BIOSYSTEMATIC CODES:
05828 Streptomycetaceae (1979-)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Microorganisms
Bacteria

6/9/17 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

06088450 BIOSIS NO.: 000085051599
SUBMERGED FERMENTATION OF PENICILLIUM-PAXILLI BIOSYNTHESIZING PAXILLINE A PROCESS INHIBITED BY CALCIUM-INDUCED SPORULATION
AUTHOR: IBBA M; TAYLOR S J C; WEEDON C M; MANTLE P G
AUTHOR ADDRESS: DEP. BIOCHEM., IMPERIAL COLL., LONDON SW7 2AZ, UK.
JOURNAL: J GEN MICROBIOL 133 (11). 1987. 3109-3120. 1987
FULL JOURNAL NAME: Journal of General Microbiology
CODEN: JGMIA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A submerged fermentation process for the production of the tremorgenic mycotoxin paxilline by Penicillium paxilli has been developed. The *fungus* did not sporulate and accumulated paxilline to 1.5% (w/w) in freeze-dried cells within 6 d in a 60 l stirred fermenter. Induction of extensive differentiation of conidiophores and profuse sporulation by adding 2% (w/w) CaCl2.2H2O to the medium at batching reduced paxilline *yield* by 97%. Paxilline biosynthesis occurred when the glucose in the medium had been exhausted, implying that carbon catabolite repression may be involved in the biosynthesis of this alkaloid, even when calcium-induced sporulation inhibits or delays the onset of paxilline biosynthesis. Sporulation-induced inhibition of indole-terpenoid alkaloid biosynthesis of P. paxilli contrasts with the situation in some other penicillia elaborating indole alkaloids and allows disassociation of aspects of *secondary* *metabolite* biosynthesis from growth-associated differentiation, which formerly seemed to be linked.

DESCRIPTORS: TREMORGENIC MYCOTOXIN CARBON CATABOLITE REPRESSION INDOLE ALKALOID *SECONDARY* *METABOLITE*
CONCEPT CODES:
13002 Metabolism-General Metabolism; Metabolic Pathways
13004 Metabolism-Carbohydrates
22501 Toxicology-General; Methods and Experimental
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51512 Plant Physiology, Biochemistry and Biophysics-Reproduction
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
10010 Comparative Biochemistry, General
10069 Biochemical Studies-Minerals
13206 Nutrition-Minerals
17506 Muscle-Pathology
20506 Nervous System-Pathology
25508 Developmental Biology-Embryology-Morphogenesis, General
36008 Medical and Clinical Microbiology-Mycology
39004 Food and Industrial Microbiology-Antibiotics, Biologics, Other Agents
51504 Plant Physiology, Biochemistry and Biophysics-Nutrition
51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods
BIOSYSTEMATIC CODES:
15500 *Fungi* Imperfecti or Deuteromycetes
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Microorganisms
Plants
Nonvascular Plants
Fungi

6/9/18 (Item 15 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

05172267 BIOSIS NO.: 000082012888
MANGANESE AND ANTIBIOTIC BIOSYNTHESIS I. A SPECIFIC MANGANESE REQUIREMENT

FOR PATULIN PRODUCTION IN PENICILLIUM-URTICAE
AUTHOR: SCOTT R E; JONES A; LAM K S; GAUCHER G M
AUTHOR ADDRESS: SECTION OF CLINICAL CHEMISTRY, DEPARTMENT OF LABORATORY MEDICINE, MAYO CLINIC, ROCHESTER, MINN, USA 55905.
JOURNAL: CAN J MICROBIOL 32 (3). 1986. 259-267. 1986
FULL JOURNAL NAME: Canadian Journal of Microbiology
CODEN: CJMIA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The effect of trace metal nutrition on the functioning of the patulin biosynthetic pathway in submerged cultures of Penicillium urticae (NRRL 2159A) was examined by both chromatographic and enzymological means. Comprehensive metal ion analysis showed generally low levels of contaminating metal ions in media components. Of eight metal ions examined, only manganese strongly influenced *secondary* *metabolite* production. In control cultures or cultures deficient in calcium, iron, cobalt, copper, zinc, or molybdenum, pathway metabolites appeared in the medium at about 25 h after inoculation. The first pathway-specific metabolite 6-methylsalicylic acid, accumulated only transiently before being converted to patulin whose concentration steadily increased. In manganese-deficient cultures, however, 6-methylsalicylic acid continued to accumulate, with only minor amounts of patulin being produced. Additionally, a marker enzyme for the pathway showed only 0-20% of control activity. Clear dose responses (patulin versus manganese) were found in different media, with no effect on growth *yield*. Addition of manganese to depleted cultures at 18, 26, or 36 h resulted in increasing marker enzyme activity and patulin concentrations. It is concluded that manganese exerts a specific, positive effect on patulin biosynthesis and may in some way control the section of the patulin pathway occurring after 6-methylsalicylic acid.

DESCRIPTORS: TRACE METAL NUTRITION ENZYMES CHROMATOGRAPHY PATHWAY METABOLITES
CONCEPT CODES:
10060 Biochemical Studies-General
13002 Metabolism-General Metabolism; Metabolic Pathways
13206 Nutrition-Minerals
22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
22501 Toxicology-General; Methods and Experimental
38502 Chemotherapy-General; Methods; Metabolism
39004 Food and Industrial Microbiology-Antibiotics, Biologics, Other Agents
51504 Plant Physiology, Biochemistry and Biophysics-Nutrition
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51519 Plant Physiology, Biochemistry and Biophysics-Metabolism
51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
10010 Comparative Biochemistry, General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10069 Biochemical Studies-Minerals
10504 Biophysics-General Biophysical Techniques
10506 Biophysics-Molecular Properties and Macromolecules
10804 Enzymes-Methods
10806 Enzymes-Chemical and Physical
10808 Enzymes-Physiological Studies
13010 Metabolism-Minerals
32000 Microbiological Apparatus, Methods and Media
BIOSYSTEMATIC CODES:
15500 *Fungi* Imperfecti or Deuteromycetes
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Microorganisms
Plants
Nonvascular Plants
Fungi

6/9/19 (Item 16 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

02107987 BIOSIS NO.: 000063022980
TOTAL SYNTHESIS OF VERRUCARIN E ITS APPLICATION TO THE PREPARATION OF A CARBON-13 LABELED DERIVATIVE
AUTHOR: GOSSAUER A; SUHL K
JOURNAL: HELV CHIM ACTA 59 (5). 1976 1698-1704. 1976
FULL JOURNAL NAME: Helvetica Chimica Acta
CODEN: HCACA
RECORD TYPE: Abstract

ABSTRACT: A relatively high over-all *yield* synthesis of verrucarin E (3-acetyl-4-hydroxymethyl-pyrrole), a *secondary* *metabolite* of the soil *fungus* Myrothecium verrucaria, was achieved by condensation of (E)-5-benzyloxy-3-penten-2-one with tosylmethylisocyanide and subsequent hydrogenolysis of the obtained O-benzyl derivative. As the closure to the pyrrole ring takes place regiospecifically, this procedure is convenient for preparing verrucarin E labeled with C-isotopes. On the basis of the data obtained from the 13C-NMR spectrum of verrucarin E labeled with 13C at the C(2) and C(3) positions, all the 13C-resonances of verrucarin E were assigned unambiguously.

DESCRIPTORS: MYROTHECIUM-VERRUCARIA
CONCEPT CODES:
  10060 Biochemical Studies-General
  51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
  06504 Radiation-Radiation and Isotope Techniques
  10050 Biochemical Methods-General
  10506 Biophysics-Molecular Properties and Macromolecules
  51516 Plant Physiology, Biochemistry and Biophysics-Light and Radiation Effects
  51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods
BIOSYSTEMATIC CODES:
  15500 *Fungi* Imperfecti or Deuteromycetes
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
  Microorganisms
  Plants
  Nonvascular Plants
  Fungi
?
PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES
?s isopenicillin N and increase(w)production
            23 ISOPENICILLIN N
       1516937 INCREASE
        945925 PRODUCTION
           588 INCREASE(W)PRODUCTION
     S7   0 ISOPENICILLIN N AND INCREASE(W)PRODUCTION
?s cpcr1
     S8   4 CPCR1
?s ispenicillin N
     S9   0 ISPENICILLIN N
?s isopenicillin N
     S10   23 ISOPENICILLIN N
?s s10 and s8
            23 S10
             4 S8
     S11   0 S10 AND S8
?s 10
     S12 2451570 10
?s s10
     S13   23 S10
?rd
...completed examining records
     S14   23 RD (unique items)
?t/3/all

 14/3/1   (Item 1 from file: 71)
DIALOG(R)File 71:ELSEVIER BIOBASE

00133019 94129985
Acyl-coenzyme A:isopenicillin N acyltransferase from penicillium chrysogenum: Effect of amino acid substitutions at Sersup 2sup 2sup 7, Sersup 2sup 3sup 0 and Sersup 3sup 0sup 9 on proenzyme cleavage and activity
Tobin M.B.; Cole S.C.J.; Kovacevic S.; Miller J.R.; Baldwin J.E.; Sutherland J.D.
ADDRESS: M.B. Tobin, Dyson Perrins Laboratory, Oxford Centre for Molecular Sciences, South Parks Road, Oxford OX1 3QY, United Kingdom
Journal: FEMS Microbiology Letters, 121/1 (39-46), 1994, Netherlands
PUBLICATION DATE: 19940000'
CODEN: FMLED
ISSN: 0378-1097
DOCUMENT TYPE: Article
LANGUAGES: English SUMMARY LANGUAGES: English

14/3/2 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12863703 BIOSIS NO.: 200100070852
Bioprocesses for preparing 7-ACA and 7-ADAC.
AUTHOR: Conder Michael J; Rambosek John A; McAda Phyllis C; Reeves Christopher D
JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1235 (1):pNo Pagination June 6, 2000
MEDIUM: e-file
ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English

14/3/3 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12745832 BIOSIS NO.: 200000499455
Synthesis of penicillin N and isopenicillin N.
AUTHOR: Lau Rute Madeira; van Eupen Jacques T H; Schipper Dick; Tesser Godefridus I; Verweij Jan; de Vroom Erik(a)
AUTHOR ADDRESS: (a)DSM Anti-Infectives, 2600 MA, Delft**Netherlands
JOURNAL: Tetrahedron 56 (38):p7601-7606 15 September, 2000
MEDIUM: print
ISSN: 0040-4020
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

14/3/4 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12698648 BIOSIS NO.: 200000452150
Structure-function studies of the non-heme iron active site of isopenicillin N synthase:'Some implications for catalysis.
AUTHOR: Kreisberg-Zakarin Rachel; Borovok Ilya; Yanko Michaela; Frolow Felix; Aharonowitz Yair; Cohen Gerald(a)
AUTHOR ADDRESS: (a)Department of Molecular Microbiology and Biotechnology, George S. Wise Faculty of Life Sciences, Tel Aviv University, Ramat Aviv, 69978**Israel
JOURNAL: Biophysical Chemistry 86 (2-3):p109-118 30 August, 2000
MEDIUM: print
ISSN: 0301-4622
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

14/3/5 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12512624 BIOSIS NO.: 200000266126
Mutational analysis of tyrosine-191 in the catalysis of Cephalosporium acremonium isopenicillin N synthase.
AUTHOR: Loke Paxton; Sim Tiow-Suan(a)
AUTHOR ADDRESS: (a)Department of Microbiology, Faculty of Medicine, National University of Singapore, 10 Kent Ridge Crescent, Singapore, 119260**Singapore
JOURNAL: Journal of Biochemistry (Tokyo) 127 (4):p585-589 April, 2000
MEDIUM: print.
ISSN: 0021-924X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

14/3/6 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12248233 BIOSIS NO.: 200000001735
The reaction cycle of isopenicillin N synthase observed by X-ray diffraction.
AUTHOR: Burzlaff Nicolai I; Rutledge Peter J; Clifton Ian J; Hensgens Charles M H; Pickford Michael; Adlington Robert M; Roach Peter L; Baldwin Jack E(a)
AUTHOR ADDRESS: (a)Dyson Perrins Laboratory and the Oxford Centre for Molecular Sciences, University of Oxford, South Parks Road, Oxford, OX1 3QY**UK
JOURNAL: Nature (London) 401 (6754):p721-724 Oct. 14, 1999
ISSN: 0028-0836
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

14/3/7 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11657441 BIOSIS NO.: 199800439172
Mutational evidence for the role of serine-283 in Cephalosporium acremonium isopenicillin N synthase.
AUTHOR: Loke Paxton; Sim Tiow-Suan(a)
AUTHOR ADDRESS: (a)Dep. Microbiol., Fac. Med., Natl. Univ. Singapore, 10 Kent Ridge Crescent, Singapore 119260**Singapore
JOURNAL: FEMS Microbiology Letters 165 (2):p353-356 Aug. 15, 1998
ISSN: 0378-1097
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/8 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11097477 BIOSIS NO.: 199799718622
Genetic engineering of penicillin biosynthesis.
AUTHOR: Shorrock Celia P(a); Sutherland J D
AUTHOR ADDRESS: (a)Dyson Perrins Lab., Oxford OX1 3QY**UK
JOURNAL: FASEB Journal 11 (9):pA884 1997
CONFERENCE/MEETING: 17th International Congress of Biochemistry and Molecular Biology in conjunction with the Annual Meeting of the American

Society for Biochemistry and Molecular Biology San Francisco, California, USA August 24-29, 1997
ISSN: 0892-6638
RECORD TYPE: Citation
LANGUAGE: English

14/3/9 (Item 8 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2001 BIOSIS. All rts. reserv.

10880671 BIOSIS NO.: 199799501816
Glutamine-330 is not essential for activity in isopenicillin N synthase from Aspergillus nidulans.
AUTHOR: Sami Malkit; Brown Toby J N; Roach Peter L; Schofield Christosper J ; Baldwin Jack E(a)
AUTHOR ADDRESS: (a)Dyson Perrins Lab., Oxford Cent. Molecular Sci., South Parks Road, Oxford OX1 3QY**UK
JOURNAL: FEBS Letters 405 (2):p191-194 1997
ISSN: 0014-5793
RECORD TYPE: Abstract
LANGUAGE: English

14/3/10 (Item 9 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2001 BIOSIS. All rts. reserv.

10753103 BIOSIS NO.: 199799374248
Anaerobic crystallisation of an isopenicillin N synthase cntdot Fe(II) cntdot substrate complex demonstrated by X-ray studies.
AUTHOR: Roach Peter L(a); Clifton Ian J; Hensgens Charles M H; Shibata Norio; Long Alexandra J; Strange Richard W; Hasnain Samar S; Schofield Christopher J; Baldwin Jack E; Hajdu Janos
AUTHOR ADDRESS: (a)Dyson Perrins Lab., South Park Rd., Oxford OX1 3QY**UK
JOURNAL: European Journal of Biochemistry 242 (3):p736-740 1996
ISSN: 0014-2956
RECORD TYPE: Abstract
LANGUAGE: English

14/3/11 (Item 10 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2001 BIOSIS. All rts. reserv.

10386521 BIOSIS NO.: 199699007666
Characterization of a Penicillium chrysogenum gene encoding a PacC transcription factor and its binding sites in the divergent pcbAB-pcbC promoter of the penicillin biosynthetic cluster.
AUTHOR: Suarez Tresa; Angel Penalva Miguel(a)
AUTHOR ADDRESS: (a)Dep. Microbiol. Mol., Cent. Invest. Biol. CSIC, Velazquez 144, Madrid 28006**Spain
JOURNAL: Molecular Microbiology 20 (3):p529-540 1996
ISSN: 0950-382X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/12 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2001 BIOSIS. All rts. reserv.

10335237 BIOSIS NO.: 199698790155
Purification and characterization of recombinant Streptomyces clavuligerus isopenicillin N synthase produced in Escherichia coli.
AUTHOR: Durairaj M; Jensen S E(a)
AUTHOR ADDRESS: (a)Dep. Biol. Sci., Univ. Alberta, Edmonton, AB, T6G 2E9** Canada
JOURNAL: Journal of Industrial Microbiology 16 (3):p197-203 1996
ISSN: 0169-4146

DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/13 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10278684 BIOSIS NO.: 199698733602
Ferrous active site of isopenicillin N synthase: Genetic and sequence analysis of the endogenous ligands.
AUTHOR: Borovok Ilya; Landman Orna; Kreisberg-Zakarin Rachel; Aharonowitz Yair; Cohen Gerald(a)
AUTHOR ADDRESS: (a)Dep. Mol. Microbiol. Biotechnol., George S. Wise Fac. Life Sci., Tel-Aviv Univ., Ramat Aviv 6997**Israel
JOURNAL: Biochemistry 35 (6):p1981-1987 1996
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/14 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10237006 BIOSIS NO.: 199698691924
Evidence for an insertion-homolysis mechanism for carbon-sulphur bond formation in penicillin biosynthesis; 2. Incubation and interpretation.
AUTHOR: Baldwin Jack E(a); Adlington Robert M; Marquess Daniel G; Pitt Andrew R; Porter Michael J; Russell Andrew T
AUTHOR ADDRESS: (a)Dyson Perrins Lab., Oxford Centre Molecular Sci., South Parks Road, Oxford OX1 3QY**UK
JOURNAL: Tetrahedron 52 (7):p2537-2556 1996
ISSN: 0040-4020
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/15 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10231183 BIOSIS NO.: 199698686101
Functional analysis of conserved histidine residues in Cephalosporium acremonium isopenicillin N synthase by site-directed mutagenesis.
AUTHOR: Tan Doreen S H; Sim Tiow-Suan(a)
AUTHOR ADDRESS: (a)Dep. Microbiol., Fac. Medicine, Natl. Univ. Singapore, Lower Kent Ridge Road, Singapore 0511**Singapore
JOURNAL: Journal of Biological Chemistry 271 (2):p889-894 1996
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/16 (Item 15 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10113327 BIOSIS NO.: 199698568245
Cleavage of the 5-amino-5-carboxy-2-oxapentanoyl side chain from enzymatically synthesised penicillins and cephalosporins.
AUTHOR: Baldwin Jack E(a); Davis S Christopher(a); Forrest Andrew K; Schofield Christopher J(a)
AUTHOR ADDRESS: (a)Dyson Perrins Lab., SouthParks Road, Oxford OX1 3QY**UK
JOURNAL: Bioorganic & Medicinal Chemistry Letters 5 (21):p2507-2512 1995
ISSN: 0960-894X
DOCUMENT TYPE: Article

RECORD TYPE: Abstract
LANGUAGE: English

14/3/17 (Item 16 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10012434 BIOSIS NO.: 199598467352
Giant linear plasmids of beta-lactam antibiotic producing Streptomyces.
AUTHOR: Netolitzky Donald J; Wu Xiaoning; Jensen Susan E; Roy Kenneth L(a)
AUTHOR ADDRESS: (a)Dep. Biol. Sci., Univ. Alberta, Edmonton, AB T6G 2E9** Canada
JOURNAL: FEMS Microbiology Letters 131 (1):p27-34 1995
ISSN: 0378-1097
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/18 (Item 17 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10011862 BIOSIS NO.: 199598466780
Cloning and expression of the isopenicillin N synthase gene from Lysobacter lactamgenus YK90.
AUTHOR: Kimura Hiroyuki(a); Suzuki Masaru; Sumino Yasuhiro
AUTHOR ADDRESS: (a)Dep. Biotechnol., Div. Pharm., Takeda Chem. Industries Ltd., Yodogawa-ku, Osaka 532**Japan
JOURNAL: Journal of Fermentation and Bioengineering 80 (2):p118-123 1995
ISSN: 0922-338X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/19 (Item 18 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09394262 BIOSIS NO.: 199497402632
The effect of compounds related to penicillin G biosynthesis on the in vitro formation and bioassay of isopenicillin N.
AUTHOR: Meesschaert B D(a); Alvarez-Ruiz E; Martin J F
AUTHOR ADDRESS: (a)Lab. Biochem. Microbiol., Catholic Polytechnic West-Flanders, Zeedijk 101, 8400 Oostende**Belgium
JOURNAL: Mededelingen Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen Universiteit Gent 58 (4B):p1973-1980 1993
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English

14/3/20 (Item 19 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08981939 BIOSIS NO.: 199396133440
Investigations into the post-translational modification and mechanism of isopenicillin N: Acyl-CoA acyltransferase using electrospray mass spectrometry.
AUTHOR: Aplin Robin T; Baldwin Jack E; Roach Peter L; Robinson Carol V; Schofield Christopher J
AUTHOR ADDRESS: Dyson Perrins Lab., Oxford Centre Molecular Sci., South Parks Rd., Oxford OX1 3QY**UK
JOURNAL: Biochemical Journal 294 (2):p357-363 1993
ISSN: 0264-6021
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/21 (Item 20 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08807077 BIOSIS NO.: 199395096428
Genes for a beta-lactamase, a penicillin-binding protein and a transmembrane protein are clustered with the cephamycin biosynthetic genes in Nocardia lactamdurans.
AUTHOR: Coque Juan Jose R; Liras Paloma; Martin Juan F(a)
AUTHOR ADDRESS: (a)Section Microbiol., Dep. Ecology, Genetics Microbiol., Fac. Biology, Univ. Leon, 24071 Leon**Spain
JOURNAL: EMBO (European Molecular Biology Organization) Journal 12 (2):p 631-639 1993
ISSN: 0261-4189
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/22 (Item 21 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08795458 BIOSIS NO.: 199395084809
Characterization of a broad-range disulfide reductase from Streptomyces clavuligerus and its possible role in beta-lactam antibiotic biosynthesis.
AUTHOR: Aharonowitz Yair(a); Av-Gay Yossef; Schreiber Rachel; Cohen Gerald
AUTHOR ADDRESS: (a)Dep. Molecular Microbiology Biotechnology, George S. Wise Faculty Life Sciences, Tel Aviv Univ.,**Israel
JOURNAL: Journal of Bacteriology 175 (3):p623-629 1993
ISSN: 0021-9193
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

14/3/23 (Item 22 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08524043 BIOSIS NO.: 199344074043
Enzymes for epimerization of isopenicillin N, ring expansion of penicillin N, and 3'-hydroxylation of deacetoxycephalosporin C: Function, evolution, refolding, and enzyme engineering.
BOOK TITLE: Annals of the New York Academy of Sciences; Enzyme engineering
AUTHOR: Yeh W K; Ghag S K; Queener S W
BOOK AUTHOR/EDITOR: Clark D S; Estell D A: Eds
AUTHOR ADDRESS: Lilly Res. Lab., Div. Eli Lilly and Co., Lilly Corp. Cent., Indianapolis, Indiana 46285**USA
JOURNAL: Annals of the New York Academy of Sciences 672p396-408 1992
BOOK PUBLISHER: New York Academy of Sciences, 2 East 63rd Street, New York, New York 10021, USA
CONFERENCE/MEETING: Eleventh International Enzyme Engineering Conference Keauhou-Kona, Hawaii, USA September 22-27, 1991
ISSN: 0077-8923 ISBN: 0-89766-764-6 (paper); 0-89766-763-8 (cloth)
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English
?t/9/8

14/9/8 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11097477 BIOSIS NO.: 199799718622
Genetic engineering of penicillin biosynthesis.
AUTHOR: Shorrock Celia P(a); Sutherland J D
AUTHOR ADDRESS: (a)Dyson Perrins Lab., Oxford OX1 3QY**UK

JOURNAL: FASEB Journal 11 (9):pA884 1997
CONFERENCE/MEETING: 17th International Congress of Biochemistry and Molecular Biology in conjunction with the Annual Meeting of the American Society for Biochemistry and Molecular Biology San Francisco, California, USA August 24-29, 1997
ISSN: 0892-6638
RECORD TYPE: Citation
LANGUAGE: English
REGISTRY NUMBERS: 1406-05-9: PENICILLIN; 58678-43-6: *ISOPENICILLIN N*
DESCRIPTORS:
  MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Enzymology (Biochemistry and Molecular Biophysics)
  CHEMICALS & BIOCHEMICALS: PENICILLIN; *ISOPENICILLIN N*
  MISCELLANEOUS TERMS: Meeting Abstract; ACTIVE SITE; BIOSYNTHESIS; ENZYMOLOGY; GENETIC ENGINEERING; *ISOPENICILLIN N*; ISOPENICILLIN N SYNTHASE; PENICILLIN; STRUCTURE-ACTIVITY RELATIONSHIP
CONCEPT CODES:
  10060 Biochemical Studies-General
  10064 Biochemical Studies-Proteins, Peptides and Amino Acids
  10506 Biophysics-Molecular Properties and Macromolecules
  10806 Enzymes-Chemical and Physical
  10808 Enzymes-Physiological Studies
  00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
?s apergillus(w)lovastatin
             22 APERGILLUS
           5536 LOVASTATIN
    S15   0 APERGILLUS(W)LOVASTATIN
?s pump1 or pump2
              0 PUMP1
              2 PUMP2
    S16   2 PUMP1 OR PUMP2
?t/3/all

 16/3/1   (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
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04991358   87109197
 Induction of tissue-specific proline-rich protein multigene families in rat and mouse parotid glands by isoproterenol. Unusual strain differences of proline-rich protein mRNAs.
  Ann DK; Clements S; Johnstone EM; Carlson DM
  Journal of biological chemistry (UNITED STATES) Jan 15 1987, 262 (2) p899-904, ISSN 0021-9258 Journal Code: HIV
  Contract/Grant No.: AM 36812, AM, NIADDK
  Languages: ENGLISH
  Document type: JOURNAL ARTICLE

 16/3/2   (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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05600289   BIOSIS NO.: 000083073429
INDUCTION OF TISSUE-SPECIFIC PROLINE-RICH PROTEIN MULTIGENE FAMILIES IN RAT AND MOUSE PAROTID GLANDS BY ISOPROTERENOL UNUSUAL STRAIN DIFFERENCES OF PROLINE-RICH PROTEIN MESSENGER RNA SPECIES
AUTHOR: ANN D K; CLEMENTS S; JOHNSTONE E M; CARLSON D M
AUTHOR ADDRESS: DEPARTMENT OF BIOCHEMISTRY AND BIOPHYSICS, UNIVERSITY OF CALIFORNIA, DAVIS, DAVIS, CALIFORNIA 95616.
JOURNAL: J BIOL CHEM 262 (2). 1987. 899-904. 1987
FULL JOURNAL NAME: Journal of Biological Chemistry
CODEN: JBCHA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH
?s lovastatin
    S17   5536 LOVASTATIN
?s s17 and increase(w)yiled
           5536 S17
        1516937 INCREASE

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             22  YILED
              0  INCREASE(W)YILED
     S18      0  S17 AND INCREASE(W)YILED
?s s17 and increase(w)yield
           5536  S17
        1516937  INCREASE
         312041  YIELD
            511  INCREASE(W)YIELD
     S19      0  S17 AND INCREASE(W)YIELD
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             22  APERGILLUS
          11695  NIDULANS
              1  APERGILLUS(W)NIDULANS
            402  RHO1
     S20      0  APERGILLUS(W)NIDULANS AND RHO1
?ds

Set     Items   Description
S1        541   SECONDARY(W)METABOLITE AND FUNG?
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S3          0   INCREASE (PRODUCTION OR YIELD)
S4     312588   INCREASE(W)PRODUCTION OR YIELD
S5         23   S1 AND S4
S6         19   RD (unique items)
S7          0   ISOPENICILLIN N AND INCREASE(W)PRODUCTION
S8          4   CPCR1
S9          0   ISPENICILLIN N
S10        23   ISOPENICILLIN N
S11         0   S10 AND S8
S12   2451570   10
S13        23   S10
S14        23   RD (unique items)
S15         0   APERGILLUS(W)LOVASTATIN
S16         2   PUMP1 OR PUMP2
S17      5536   LOVASTATIN
S18         0   S17 AND INCREASE(W)YILED
S19         0   S17 AND INCREASE(W)YIELD
S20         0   APERGILLUS(W)NIDULANS AND RHO1
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            $3.95  3 Types
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               $0.20  1 Type(s) in Format  9
            $0.40  2 Types
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           $12.68    2.265 DialUnits File5
              $37.95  23 Type(s) in Format  3
              $28.05  17 Type(s) in Format  9
           $66.00  40 Types
    $78.68  Estimated cost File5
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     $1.00  TYMNET
    $91.14  Estimated cost this search
    $91.57  Estimated total session cost   3.453 DialUnits


### Status: Signed Off. (20 minutes)
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